BY ORDER OF THE COMMANDER
SPANGDAHLEM AIR BASE (USAFE)

SPANGDAHLEM INSTRUCTION 48-101

1 SEPTEMBER 2004

Aerospace Medicine

HAZARD COMMUNICATION

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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OPR: 52 AMDS/SGPB
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Supersedes SPANGDAHLEMI 48-101,
2 October 2000

Certified by: 52 AMDS/CC
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Pages: 18
Distribution: F

This instruction implements Air Force Policy Directive (AFPD) 48-1, *Aerospace Medical Program*. It applies to all Air Force military and civilian personnel (including foreign nationals) working under the auspices of the 52d Fighter Wing. It implements Air Force Occupational Safety and Health Standard (AFOSHSTD)161-21, *Hazard Communication*, at Spangdahlem Air Base and meets the requirements of Department of Defense (DoD) Instruction 6055.5, *Hazard Materials Information System,* and Occupational Safety and Health Administrations (OSHA) Hazard Communication (HAZCOM) Standard (29 CFR 1910.1200). It does not apply to products, personnel and work areas specifically exempted in the introduction of AFOSHSTD 161-21. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 37-123, Management of Records, and disposed of in accordance with the Air Force Records Disposition Schedule (RDS).

SUMMARY OF REVISIONS

This document is substantially revised and must be completely reviewed.

This instruction has been completely revised and must be reviewed in its entirety. The instruction is written to serve as the work center "Written HAZCOM Program" in accordance with Air Force and Federal requirements. It provides a template for a work center specific training plan and standardizes documentation filing requirements for base-wide consistency and simplification of quality control assessments. Air Force Enterprise Environmental, Safety and Occupational Health Management Information System (EESOH-MIS) hazardous material authorization listing will be used as the workplace hazardous material listing. Supervisors no longer must submit AF Form 55, **Employee Safety and Health Record**, to 52d Aerospace Medicine Squadron (52 AMDS) Public Health (SGPM) for retiring personnel. Clarification is provided on the designation of "consumer products," and a work center quality assurance checklist is provided.

1. Purposes:

1.1. The Air Force Hazard Communication Program (AFHCP) is a DoD directed program consisting of a written program, hazard determination, Material Safety Data Sheets (MSDS), hazardous materials labeling, employee education and training, and hazardous chemical inventories. The basic premise of the AFHCP is that a work force informed of hazardous materials and control procedures will be less prone to injury or illness by these physical or chemical agents. The training, labeling, chemical inventory and the MSDS requirements of this program enhance material hazard awareness of workers and supervisors. This in turn will increase worker productivity and will result in decreased worker compensation costs.

1.1.1. This instruction, combined with the Employee Training Plan, hazardous material list and non-routine task listing, serves as the work center's "written HAZCOM" program in accordance with AFOSHSTD 161-21.

2. Responsibilities:

2.1. Unit Commanders will:

2.1.1. Ensure supervisors and employees who handle, use or are potentially exposed to hazardous materials in the course of official Air Force duties are trained (reference training requirements of paragraph **6.**).

2.1.2. Ensure supervisors comply with the requirements of this instruction.

2.2. Supervisors will:

2.2.1. Attend Federal Hazard Communication Training Program (FHCTP) Train-the-Trainer Course provided by 52 AMDS/SGPM at Spangdahlem Air Base. Supervisors may appoint a section FHCTP Trainer to attend the FHCTP Train-the-Trainer Course. (**Note:** Members who have acquired FHCTP certifications provided by any USAF SGPM is acceptable as proof of training).

2.2.2. Ensure all personnel assigned to the work area receive HAZCOM training for their work area before employees handle or are occupationally exposed to hazardous materials. Training must be conducted upon initial work area assignment, whenever a new hazard is introduced into the work area and at least annually. Document all HAZCOM training on AF Form 55, **Employee Safety and Health Record**.

2.2.3. Determine whether the type and quantity of a hazardous material used in the workplace qualifies the item to be exempted as a "consumer product," (**Attachment 2**) in accordance with AFOSHSTD 161-21.

2.2.4. Ensure that all material including bypass material is labeled in accordance with paragraph **5.** of this instruction.

2.2.5. Perform quality assurance reviews using the checklist (**Attachment 4**) as necessary to maintain compliance with this instruction.

2.2.6. Maintain a HAZCOM Binder and MSDS Binder containing all documentation listed below. Each binder will be tabbed in the format listed. Contents of tabs may be maintained in another location and cross-referenced. Work centers with small chemical inventories may integrate all information into one binder. The supervisor must ensure the binders are easily accessible to all

personnel during all work shifts (such as being located on a designated safety board) and ensure personnel are aware of their location.

2.2.6.1. HAZCOM binder format:

2.2.6.1.1. Tab A--HAZCOM Trainer Certification (from 52 AMDS/SGPM).

2.2.6.1.2. Tab B - AFOSHSTD 161-21, *Hazard Communication.*

2.2.6.1.3. Tab C - SPANGDAHLEMI 48-101, *Hazard Communication.*

2.2.6.1.4. Tab D - Employee Education and Training Plan.

2.2.6.1.5. Tab E - Non-routine Task Listing (or statement of no non-routine tasks).

2.2.6.1.6. Tab F - 52 AMDS Bioenvironmental Engineer Flight (BEF) Survey Reports.

2.2.6.1.7. Tab G - Additional Information (i.e. Supervisor's Quality Control Checklists).

2.2.6.2. MSDS binder format:

2.2.6.2.1. Tab A - AF-EESOH-MIS Authorization Listing (Hazardous Chemical Inventory).

2.2.6.2.2. Tab B - List of "consumer products" Used by the Work center.

2.2.6.2.3. Tab C - AF Forms 3952, **Chemical/Hazardous Material Authorization Request.**

2.2.6.2.4. Tab D - MSDS (in English).

2.2.6.2.5. Tab E - MSDS (in language of host nation) if applicable.

2.2.6.2.6. Tab F - Operating Instructions in German if applicable (per FGS C.5.3.6.1)

2.2.6.3. Develop a supplemental, work area specific employee information and training plan which provides detailed information on all areas required in paragraph **6.** of this instruction, an example plan is provided (see **Attachment 3**).

2.2.6.4. Establish a list of non-routine tasks performed in the work area for all operations, which involve the use of hazardous materials. If non-routine tasks are not performed, a signed statement such as "Non-routine tasks involving the use of hazardous materials are not projected to be performed in this work area" must be filed in the HAZCOM binder. The supervisor will ensure either work area Operating Instructions or technical orders describe non-routine tasks, associated hazards and controls. Supervisor will ensure workers review these procedures before performing non-routine tasks.

2.2.6.5. Maintain a copy of 52 AMDS/BEF survey reports, annual updates and other special surveys. These reports must be maintained for a minimum of 10 years.

2.2.6.6. Maintain a current copy of the AF-EESOH-MIS User Authorization Listing. This listing will serve as the work center hazardous material list and must be updated whenever a new chemical is introduced into the work area.

2.2.6.7. Supervisors will establish a list of items considered consumer products on a separate inventory list filed in the HAZCOM binder. Consumer products are exempt from HAZCOM and HMP tracking requirements.

2.2.6.8. Obtain a current MSDS (English and Host Nation, if required per FGS) for each hazardous material used in the work area. If there are a predominant amount of host nation workers, then a MSDS in German is required. The MSDS must be specific to the manufacturer of the item used and must be obtained prior to requesting authorization for local purchase items. If one specific local provider cannot provide an MSDS in English, other vendors are available that can and must be used. A hard copy MSDS must be maintained in the workcenter MSDS binder. (Add information about operating instructions as a responsibility of the shop supervisor. In C5.3.6.1, FGS states "at locations where German employees are required to work with hazardous substances, each work center will maintain a file of operating instructions (Betriebsanweisung) for each hazardous material procured, stored, or used at the work center. The operating instructions shall be provided in German (an example is provided in Appendix C5.A9).")

2.3. 52 AMDS/BEF Flight Commander will:

2.3.1. As part of the Hazardous Material Management Process (HMMP) Team, maintain the MSDS master file containing all hazardous chemicals used on Spangdahlem AB.

2.3.2. Provide assistance to base personnel, as requested, in obtaining a current MSDS and in making "hazardous material" and "consumer product" determinations.

2.3.3. Advise organizations and base personnel on labeling of containers.

2.3.4. Provide technical assistance to 52 AMDS/SGPM and other formal organizational training structures conducting supervisor training on the FHCTP.

2.3.5. Provide work area supervisors technical assistance, as requested, in identifying non-routine tasks involving hazardous materials and in establishing and maintaining the workcenter HAZCOM Program.

2.3.6. Review work area programs with industrial case files during routine industrial hygiene assessments.

2.3.7. Advise supervisors of the specific hazards of material through work area evaluations.

2.4. 52 AMDS/SGPM Flight Commander will:

2.4.1. Provide initial training to supervisors of industrial areas with hazardous materials. Provide written certification for all individuals trained.

2.4.2. Provide technical assistance to work area supervisors on the HAZCOM training of employees.

2.5. 52 AMDS Hazardous Material Pharmacy Noncommissioned Officer in Charge will:

2.5.1. Upon receipt of hazardous materials, inspect the material and review the MSDS. Personnel will examine containers to ensure materials are labeled or marked properly, displaying the identity of the hazardous material, the appropriate hazard warning and the name, address and phone number of the manufacturer, importer or other responsible party. If the MSDS is missing or the container is not properly labeled or marked, receiving personnel have the option to either refuse the material or contact the supplier for the necessary paperwork.

2.5.2. In the event existing stock is found improperly labeled in accordance with the requirements of AFOSHSTD 161-21, receiving personnel will attach Hazardous Chemical Warning Label (DD Form 2521 or DD Form 2522) or equivalent to satisfy labeling requirements.

2.5.3. Forward to 52 AMDS/BEF a copy of MSDSs or DIN Forms received for hazardous materials within 10 working days.

2.5.4. Only issue chemicals for which an MSDS is available to the customer.

2.5.5. Ensure the MSDS of locally procured chemicals are entered into EMIS or EESOH-MIS, to include product constraints.

2.6. The 52d Contracting Squadron (52 CONS) Commander will:

2.6.1. Comply with applicable requirements of paragraph **8.** of this instruction.

2.6.2. Ensure that all contracts for which the Air Force locally procures potentially hazardous materials, includes clause 52.223-3, "Hazardous Material Identification and Material Safety Data," of the Federal Acquisition Regulation (FAR) 23.303. Contractors will be required to provide MSDSs in both English and the language of the host nation.

2.6.3. Advise contractors of hazardous chemicals used in Air Force operations they may encounter and any protective measures needed in the normal course of their work. The Contracting Officer will inform the contractor that MSDS information is available through the HMMP Team.

2.6.4. At the pre-performance conference, and subsequently during the contract performance period, the requiring activity quality assurance personnel will advise work area supervisors and Air Force employees monitoring the performance of contractors of hazardous chemicals introduced by the contractor. The contractor is required to submit information on the use of hazardous materials according to FAR clause 52.223-3.

2.7. The 52d Civil Engineer Squadron Commander will comply with applicable requirements of paragraph **8.** of this instruction.

3. Hazard Determination:

3.1. Spangdahlem Air Base will rely on the hazard determination of the supplier and manufacturer for purchased potentially hazardous materials. For those potentially hazardous materials produced by US Air Force components, the activity controlling the formulation will make the hazard determination.

3.2. Workplace supervisors are responsible for determining whether the type and quantity of a hazardous material used in the workplace qualifies the item to be exempted as a "consumer product," in accordance with AFOSHSTD 161-21. 52 AMDS/BEF will provide assistance, as necessary, to make this determination.

4. Material Safety Data Sheets (MSDS):

4.1. 52 AMDS/BEF maintains the MSDS master file containing all hazardous chemicals used at Spangdahlem AB as part of the HMMP Team. This master file consists of the Hazardous Material Information System (HMIS) and OSHA Form 174, **Material Safety Data Sheet**, or equivalent forms.

4.2. The work area MSDS Binder with hardcopy MSDSs will be readily available to all workers. Supervisors must ensure access to workers during all work shifts.

4.3. 52 AMDS/BEF is available and may be contacted for interpretation of information contained in an MSDS and assistance in procuring an MSDS from a manufacturer.

5. Labels and Other Forms of Warning:

5.1. All hazardous material containers brought onto or used within the confines of Spangdahlem AB will be labeled, tagged or marked with the following information. In accordance with the Environmental Final Governing Standards, Germany, labels must be in both English and the language of the host nation, if there is a predominant population of host nation workers, otherwise it can be in English only. (FGS section C5.3.7 indicates that hazardous materials of US origin will be marked per DoD 6050.5-H throughout it's lifecycle. Hazardous materials not of US origin must be labeled in German and English per FGS C5.3.7.1)

5.1.1. Identity of the hazardous materials (i.e. material name, stock number and or part number).

5.1.2. Appropriate hazard warnings (i.e. health, fire or reactivity hazards and severity as listed on the MSDS and areas of the body to protect such as eyes, skin or respiratory tract).

5.1.3. Name, address and phone number of the manufacturer, importer or other responsible party.

5.2. DD Form 2521, **Hazardous Chemical Warning Label**, or DD Form 2522, **Hazardous Chemical Warning Label,** when available, will be used as a uniform labeling system to meet the labeling requirements for:

5.2.1. Existing stocks of unlabeled materials.

5.2.2. Hazardous materials manufactured within the Air Force.

5.2.3. Transferring, repackaging or distributing of bulk quantities of hazardous materials into other containers (breakdown quantities).

5.2.4. Re-labeling hazardous material containers in accordance with paragraph **5.1.** when labels have been accidentally defaced or lost.

5.3. The sources for this labeling information are:

5.3.1. HMIS labeling field.

5.3.2. Label on bulk or packaged containers.

5.3.3. Hard copy of the manufacturer's MSDS.

5.3.4. Manufacturer, importer or other responsible party.

5.4. Label all tanks with the name of the material it contains. This will ensure non-compatible materials are not accidentally added to the tank or vat.

6. Employee Information and Training:

6.1. All workers will be trained on the AFOSHSTD 161-21.1W, "*Federal Hazard Communication Training Program (FHCTP), Student's Workbook*," and video program, or equivalent HQ USAF/SG approved program containing the elements of the FHCTP, before the workers handle or are occupationally exposed to hazardous materials. This training may be provided by the supervisor or other formal organization training structure (e.g. maintenance trainers).

6.2. Supervisors or other designated trainers must be trained and certified by USAF SGPM before they are authorized to provide training to workers. FHCTP training certificates must be placed in TAB A of the Hazard Communication Binder.

6.3. Prior to starting work, each newly assigned person will receive a health and safety briefing and orientation that include the following information and training. Example training plan is provided (**Attachment 3**).

6.3.1. An overview of the requirements contained in the HAZCOM Standard.

6.3.2. Location of the HAZCOM Binder and MSDS file or database.

6.3.3. Hazardous materials present in the work area.

6.3.4. How to read labels and review MSDSs to obtain hazard information.

6.3.5. Physical and health risks of each hazardous chemical.

6.3.6. The symptoms of overexposure.

6.3.7. How to determine the presence and release of hazardous chemicals in the work area.

6.3.8. How to reduce or prevent exposure to hazardous chemicals through use of control procedures, work practices and personal protective equipment.

6.3.9. Steps taken to reduce or prevent exposure to hazardous chemicals.

6.3.10. Spill response procedures and emergency procedures to follow if employees are exposed to hazardous chemicals.

7. Hazardous Chemical Inventory. Air Force Enterprise Environmental, Safety and Occupational Health Management Information System (AF-EESOH-MIS) User Authorization Listing will be used for the work center chemical inventory. This listing must be kept current and must reflect a complete and accurate inventory of all hazardous materials used in the work area. A current listing may be obtained through the Hazardous Material Pharmacy, 52 AMDS/BEF, Environmental, Safety or any AF-EESOH-MIS workstation.

8. Contractor Operations:

8.1. Contractors working in areas storing or using hazardous materials will be provided the following information:

8.1.1. Hazardous chemicals to which they may be exposed while on the job site.

8.1.2. Measures the contractor can take to lessen the risk of exposure.

8.1.3. Steps the Air Force has taken to reduce the risks.

8.1.4. The location of MSDS for the chemicals which are stored or used in the area.

8.1.5. Information on how the materials are labeled.

8.2. The Air Force requesting activity quality assurance evaluator will advise work area supervisors and Air Force employees monitoring the performance of contractors of hazardous chemicals introduced by the contractor.

8.2.1. The contractor is required to submit information on the use of hazardous materials according to FAR clause 52.223-3.

8.2.2. 52 CONS is required to ensure that all contracts require compliance with Title 29, CFR, 1910.1200.

9. Non-Routine Tasks Involving Hazardous Materials:

9.1. The work area supervisor will list non-routine tasks performed in the work area which involve hazardous materials. The supervisor will ensure work area operating instructions thoroughly describe non-routine tasks, associated hazards and controls. Operating instructions do not need to be prepared if technical orders or other documents adequately describe these tasks. Supervisors will ensure workers review these procedures before performing a non-routine task.

9.2. When workers temporarily perform duties outside their normal job, the supervisor of the activity will ensure these workers receive the following training prior to beginning the activity:

9.2.1. The initial FHCTP described in of AFOSHSTD 161-21 for workers not previously trained.

9.2.2. Supplemental training, as necessary, on specific chemical hazards which will be used or will be at the job site.

9.2.3. Measures the worker can take to reduce the risk of exposure at the job site and steps already instituted to reduce the risk (e.g. ventilation system).

9.2.4. The location of the MSDSs for chemicals present.

9.2.5. The information contained on the labels.

9.3. The supervisor of the activity will forward a letter to the worker's formal supervisor describing the training conducted so the individual's AF Form 55 can be updated.

DAVID L. GOLDFEIN, Colonel, USAF
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

Title 29, Code of Federal Regulations, 1910.1200, *Occupational Safety and Health Standards*

AFPD 48-1, *Aerospace Medical Program*

Air Force Instruction 32-7086, *Hazardous Materials Management*

AFOSHSTD 161-21, *Hazard Communication*

DoD *Environmental Final Governing Standards, Germany*

DoD Instruction 6055.5 *Hazard Materials Information System*

Abbreviations and Acronyms

AF-EESOH-MIS—Air Force Enterprise Environmental, Safety and Occupational Health Management Information System

AFHCP—Air Force Hazard Communication Program

AMDS—Aerospace Medicine Squadron

BEF—Bioenvironmental Flight

CONS—Contracting Squadron

FAR—Federal Acquisition Regulation

FGS - DoD Environmental Final Governing Standards, Germany

FHCTP—Federal Hazard Communication Training Program

HAZCOM—Hazardous Communication

HMIS—Hazardous Material Information System

HMMP—Hazardous Material Management Process

MSDS—Material Safety Data Sheet

OSHA—Occupational Safety and Health Administration

SGPM—Public Health

Terms

Bypass Material—Material going directly to the user rather than to the supply receiving function.

Chemical—Any element, chemical compound or mixture of elements, or compounds in a solid, liquid or gaseous form.

Consumer Product—A product used in the workplace in the same manner as normal consumer use, and which use results in a duration and frequency of exposure which is not greater than exposures experienced by consumers. This will be a case-by-case judgment made by the supervisor. Typical consumer products

are listed (**Attachment 2**) and as examples.

Container—Any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank or the like that contains a hazardous chemical. For purposes of this instruction, pipes or piping systems and engines, fuel tanks, or other operating systems in a vehicle are not considered to be containers.

Employee—An individual who may be exposed to hazardous chemicals under normal operating conditions or in unforeseeable emergencies. Workers such as office workers or finance tellers who encounter hazardous chemicals only in non-routine, isolated instances are not covered by this instruction.

Exposure or Exposed—An employee who is subjected to a hazardous chemical through any route of entry (inhalation, ingestion, skin contact or absorption) in the course of employment. Also includes potential, accidental or possible exposure.

Hazardous Chemical or Hazardous Material—Any material, which is a physical or health hazard and requires an MSDS as defined in Federal Standard 313, unless excluded.

NOTE: **The following items are not considered hazardous materials and are exempt:** Hazardous wastes, tobacco, wood products, materials packaged for retail sale, personal food, drugs or cosmetics brought into the work area, consumer products used in small quantities for non-occupational uses, chemicals used for laboratory analytical processes, and pharmaceuticals and biological materials including serums and vaccines in their final form.

Label—Any written, printed or graphic material, displayed on or affixed to containers of hazardous materials.

Material—Same definition as chemical.

Material Safety Data Sheet—Information provided by U.S. manufacturers or importers on hazardous materials. Information includes physical and chemical data, health risks, fire and reactivity data, spill provisions and evidence of chemical carcinogenicity. The German equivalent of the US MSDS is the Deutsche Industrie Norm (DIN) Form 52-900, **Sicherheitsdatenblatt.**

Non-Routine Tasks—Those tasks included within a work area's normal activity but performed infrequently. For example, cleaning with a solvent, changing the solvent from a tank, or cleaning up a spill. Temporary duties outside an individual's normal Air Force specialty code or job series.

Use—To package, handle, react, or transfer.

Work Area—A room or defined space in a workplace where hazardous materials are produced or used and where employees are present.

Workplace—An establishment, job-site, or project at one geographical location containing one or more work areas. For this instruction, the workplace is defined as all facilities located within the boundaries of Spangdahlem Air Base.

Worker—Same definition as employee.

Attachment 2

EXAMPLE HAZARDOUS MATERIAL AUTHORIZATION/TRACKING EXEMPTIONS

Table A2.1. Hazardous Material and Typical Consumer Products.

ITEM NAME	SIZE	EXCEPTIONS
Air Freshener	Consumer Product	Aerosol w/Class 1 ODSs
Automobile Wax	Consumer Product	N/A
Baking Soda	Consumer Product	N/A
Batteries, Dry Cell/Alkaline	AAA-D, 9V, 6V	N/A
Correction Fluid Product Containing 1,1,1 trichlotoethane Detergents (Laundry/Dishwasher, etc) Consumer Product Industrial Concentrations Dish/ Hand Soaps/Compounds	Consumer Product	N/A
Dust-mop Treatment Compound	Consumer Product	N/A
Eye Wash Additive	Consumer Product	N/A
Floor Finish	Consumer Product	Oil/Solvent Based
Floor Polish	Consumer Product	N/A
Floor Sweeping Compound	Consumer Product	N/A
Floor Wax	Consumer Product	N/A
Furniture Polish	Consumer Product	N/A
General Purpose Deodorant	Consumer Product	Aerosol w/Class 1 ODSs
Glass Cleaner (Windex/Glass Plus, etc)	Consumer Product	Industrial Concentrations
Glazing Compound	Consumer Product	N/A
Glue Stick	Consumer Product	N/A
Joint Compound (For Sheetrock Work)	Consumer Product	N/A
Leak Detector (Soapy Water)	Consumer Product	N/A
Liquid Chlorine Bleach	Consumer Product	Greater than 9% concentration
Metal Polish	Consumer Product	Industrial Concentrations
Multi-Purpose Cleaner (409/Simple Green)	Consumer Product	N/A
Neatsfoot Oil	Consumer Product	N/A
Printer Cartridges/Printer Ribbon	Consumer Product	N/A
Rug/Upholstery Cleaner	Consumer Product	Industrial Concentrations
Shredder Oil	Standard Use	N/A

ITEM NAME	SIZE	EXCEPTIONS
Soap (Toilet/Pumice)	Consumer Product	N/A
Stamp Pad Ink (All Colors)	Consumer Product	N/A
Super Glue	Consumer Product	N/A
Talcum Powder	Consumer Product	Asbestos containing
Technical Bees Wax	Consumer Product	N/A
Tire/Rubber Lubricant	Consumer Product	N/A
Toilet/Porcelain Cleaner (Soft Scrub, etc)	Consumer Product	Acid Containing
Toner (Direct/Indirect/Kits/cartridges)	Standard Use	N/A
Urinal Cakes	Consumer Product	N/A

NOTES:

1. "Consumer Product" means product is used in the workplace in the same manner as it would be used. for household use, with similar duration and frequency of exposure; determination is made item by item by workplace supervisor (Reference AFOSHSTD 161-21, page 2)
2. Consumer products are exempt from Hazard Communication program (no MSDS required); work centers, however, must identify these items on a separate list in their HAZCOM binder.
3. List DOES NOT exempt item from separate storage, compatibility and disposal requirements.
4. Cannot stockpile consumer products; general guidance is 2 containers allowed per shop.
5. Standard use means normally purchased to service specific equipment.

Attachment 3

SAMPLE EMPLOYEE INFORMATION AND TRAINING PLAN

A3.1. This document provides supervisory personnel with the training requirements for the Hazard Communication (HAZCOM) program for all personnel assigned to this work area. Upon completion of this training, personnel must have their AF Form 55 updated to reflect such training.

A3.2. Overview:

A3.2.1. The Occupational Safety and Health Administration (OSHA) issued the HAZCOM Standard which eventually became Title 29, CFR, 1910.1200, Hazard Communication. It states that every individual has the right to know what hazards are faced on the job and how to be protected against them. AFOSHSTD 161-21, *Hazard Communication*, outlines the Air Force program.

A3.2.2. In 1983, OSHA issued the HAZCOM Standard for manufacturing operations to help protect you. In 1987, OSHA revised this standard and expanded it to include all workplaces where personnel are exposed to hazardous chemicals.

A3.2.3. The goal of the HAZCOM Program is to reduce the incidence of occupational illness and injury caused by hazardous chemicals in the workplace.

A3.3. Material Safety Data Sheets (MSDS) are located with the HAZCOM Program. All documents (including the chemical inventory, non-routine task listing and written plan) are contained in the HAZCOM binder, located _____. Work area personnel are trained on how to read material labels and MSDSs during their technical training and during initial work area orientation.

A3.3.1. A MSDS contains nine major sections. The sections are divided as follows: Material Identification, Ingredients and Hazards, Physical Data, Fire and Explosion Data, Reactivity Data, Health Hazard Data, Spill and Disposal Methods, Special Protection Information and Comments Section. All companies follow this standard format.

A3.3.1.1. Section I contains the material identification and general information like company name, address, material name with synonyms and an emergency phone number.

A3.3.1.2. Section II lists all hazardous ingredients in the chemical mixture. Many chemical materials are mixtures. Not only does this section list the ingredients, but also states the percentages of each ingredient found in the total mixture. For example, acetic acid may contain two ingredients, water and acetic acid, where water makes up 72% of the mixture and 28% is acetic acid. This accounts for 100% of the mixture (72 + 28). Knowing percentages is helpful when an air sample is accomplished to determine the airborne concentration of the hazard.

A3.3.1.3. Section III contains physical data. Physical data is characterized by appearance, odor, a boiling point, freezing point, vapor pressure, solubility and specific gravity. The important data in this section are vapor pressure and boiling point. For instance, methylene chloride has a boiling point of 39 C (102 F) and has a high vapor pressure. Because of these physical properties, an employee should be aware that this material must be stored in a cool, vented and flame free environment.

A3.3.1.4. Section IV provides data on fire and explosion information such as what type of fire extinguishing media to use and whether or not any toxic vapors are released during a fire. If so, it states the personal protective measures fire fighters should use. It is important that this section be reviewed prior to using the chemical.

A3.3.1.5. Section V provides reactivity data. This section simply describes "what can be stored with what". An example is storing acids with bases. You would not want to store sodium hydroxide (lye) in the same cabinet with sulfuric acid (battery acid), if one of those containers broke, it would react vigorously, neutralize your chemicals and produce hydrogen gas. It could produce a dangerous situation.

A3.3.1.6. Section VI contains health hazard information, emergency and first aid procedures. The data found in this section describe the route of entry (e.g. skin, eyes, respiratory) and the target organs or systems (e.g. liver, lungs, and central nervous system) and first aid procedures.

A3.3.1.7. Section VII provides information on the proper disposal of the material. This section tells you how to neutralize a chemical spill, how to dispose of the material and who to contact if a spill occurs.

A3.3.1.8. Section VIII provides important information on specific personal protective equipment such as respiratory protection, rubber boots, or eye goggles. It also provides information on the necessity for engineering controls such as a ventilation system.

A3.3.1.9. Section IX is used for any additional comments the manufacturer deems necessary for the user. The key is educating the user on the product to prevent injury or illness.

A3.4. A listing of all hazardous chemicals is provided as part of the HAZCOM Program. The actual chemicals are stored in _____.

A3.4.1. The HAZCOM program requires the use of warning labels that contain the name and identity of the chemical and appropriate hazard warnings.

A3.4.2. Labels on containers that leave the work area must contain the name and address of the responsible party. The warning label is often your first source of information about chemical hazards. The name and identity on the label can be used to find the right MSDS, where you will find additional information.

A3.5. Work center HAZCOM Binder MSDS's provide the physical and health risks of each hazardous chemical along with the signs and symptoms of overexposure and the method of determining the presence or release of a hazardous material in the work area.

A3.6. Work area personnel reduce or prevent exposure to hazardous chemicals by using appropriate personal protective equipment (PPE) and by being familiar with the signs and symptoms of exposure to the materials they are working with. Three basic methods for controlling chemical hazards are engineering controls, personal protective equipment and administrative controls.

A3.6.1. Engineering controls include substitution, isolation, general ventilation and local exhaust ventilation. Substitution applies when a chemical, process, or piece of equipment with fewer hazards can replace an existing one. Isolation refers to using an enclosure, barrier, or a safe distance to separate workers from the exposure hazard. Common examples of this are machine enclosures, enclosed control rooms and splash-guards. General ventilation is mixing an airborne hazard with fresh air to

reduce exposure levels. This only applies when hazards have low toxicity and mix readily with air. Some examples of general ventilation are fans and vents. Local exhaust ventilation captures an airborne hazard as it is released and takes it out of the work area to eliminate the exposure.

A3.6.2. Prioritizing how we control exposures is accomplished by looking at the source, path and receiver. Controlling the receiver is least desirable, but most often used. Personal protective equipment (PPE) is the most common means of protecting an individual against exposures (physical and health hazards). Some examples of PPE include gloves, aprons, eye and face protection and respirators. To protect you, the PPE must be matched to the specific hazard. For example, cloth gloves are useless for protection against a corrosive liquid. Personal protective equipment is useless unless you wear it. Proper fit, correct use and routine inspection are essential.

A3.6.3. Administrative controls include documentation, information and training in safe work practices, good housekeeping and most of all, monitoring. This applies to personnel and equipment. The HAZCOM Program is an effective administrative control to ensure workers are informed on the work area hazards.

A3.7. Steps taken to reduce exposure. Steps are described in the BEF survey reports, located in the HAZCOM binder. The reports address PPE and administrative controls to reduce the risk of exposure to all workers. Additionally, all personnel are provided HAZCOM training and are always discussing potential situations as well as how to best deal with such situations.

A3.8. Work area personnel do/do not (circle appropriate word) use large quantities of hazardous materials. Most spills are cleaned up on the spot by following the hazardous material spill cleanup procedures, which are reviewed prior to working with any chemical. An emergency eyewash is available in _____ for accidental contact and a shower is available in _____. Immediately after flushing the exposed area for 15 minutes, personnel involved will be taken to the Emergency Room for further evaluation. Additionally, work area personnel receive in-service training on responding to hazardous material spills. If, at any time, there is a spill, which is beyond our capabilities, work area personnel will evacuate the building and call the Fire Department for assistance.

A3.9. The following review questions may be used by supervisors to test workers' knowledge of the HAZCOM Program.

Table A3.1. Review Questions.

QUESTION	ANSWER
What chemicals could present a potential health hazard used by your shop?	
What is a MSDS?	
Where are the MSDSs for your shop kept?	
Where is the Hazardous Material Inventory?	
What type of PPE is used in your shop?	
Who is your HAZCOM Program Manager?	
What procedures do you follow in the event of a small spill? A large spill? What is the difference?	

Attachment 4

HAZARD COMMUNICATION PROGRAM EVALUATION CHECKLIST

Table A4.1. Checklist

Work center Name: _____ Org/Office Symbol:_____

Date of Assessment: _____ Assessor's Signature: _____

	YES	NO	N/A
1. Applicability: Do your duties require occupational use of hazardous materials per Spangdahlem Instruction 48-101? If "No," no further action is necessary. For questions, contact Bioenvironmental Engineering at 452-8347			
2. Hazard Communication Binder available:			
2.1. Tab A - HAZCOM Trainer Certification (from SGPM)			
2.2. Tab B - AFOSHSTD 161-21, Hazard Communication			
2.3. Tab C - Spangdahlem AB Instruction 48-101, Workplace Written Hazard Communication			
2.4. Tab D - Employee education and training plan			
2.5. Tab E - Non-routine task listing (or statement of no non-routine tasks)			
2.6. Tab F - Bioenvironmental Engineer survey reports--Are survey BEF reports maintained for a minimum of 10 years?			
2.7. Tab G - Additional Information (i.e. HAZCOM program evaluation checklists)			
3. MSDS Binder Available (or contents integrated into HAZCOM Binder):			
3.1. Tab A--EESOH-MIS authorization Listing (Hazardous Chemical Inventory			
3.2. Tab B--List of "Consumer Use" Products Used by the Work center			
3.3. Tab C--AF Forms 3952, Chemical/Hazardous Material Authorization Requests, for each chemical			
3.4. Tab D--MDSDs in English available for each chemical and for each manufacturer			
3.5. Tab E -MSDSs in language of host nation available for each chemical and manufacturer if applicable.			
4. General Requirements			
4.1. Can workers access HAZCOM documents at all times without prior supervisor approval?			
4.2. Has the supervisor or designated HAZCOM Trainer received HAZCOM training from SGPM.?			
4.3. Have all workers received HAZCOM training and training documented on AF Form 55?			

4.4. Is EESOH-MIS Authorization Listing used as Hazardous Chemical Inventory?

4.5. Is Hazardous Chemical Inventory current and complete?

4.6. Are hazardous materials properly labeled (identification, hazard warnings, address, and phone)?

5. Comments/Findings